

Social transformations in the Late Neolithic and the Early Chalcolithic periods in central Anatolia

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Abstract

This article explores the character of social transformations within Late Neolithic and Early Chalcolithic communities of central Anatolia. This comprises the demise of neighbourhood communities that formed the social basis of the Early Neolithic period and the emergence of the household as a well-defined and autonomous entity. These changes are examined by focusing mainly on settlement patterns, the organisation of space and changes in architecture. The transformations are examined on the microscale, using Çatalhöyük as a case study, and on a regional scale focused on three areas of central Anatolia: the Beyşehir-Seydişehir area, the Konya plain and the Cappadocian region.

Özet

Bu makalede, Orta Anadolu'nun Geç Neolitik ve Erken Kalkolitik toplumlarında yaşanan sosyal dönüşümlerin karakteri araştırılmaktadır. Bu evre, Erken Neolitik Çağın sosyal yapısının temelini oluşturan komşu ilişkilerinin çöküşünü ve sınırları belirlenmiş, özerk bir bütünlüğü simgeleyen aile biriminin ortaya çıkışını içerir. Bu değişimler daha ziyade yerleşim dokusu, alan kullanımı ve mimarideki değişimler üzerine odaklanarak incelenmiştir. Dönüşümler, Çatalhöyük örneği temel alınarak mikro ölçekte, Orta Anadolu'nun üç ayrı bölgesine (Beyşehir-Seydişehir, Konya Ovası ve Kapadokya) odaklanarak da bölgesel ölçekte ele alınmıştır.

At the end of the Late Neolithic period and the start of the Early Chalcolithic considerable social transformations occurred in many communities of central Anatolia: as indicated by changes within settlement patterns, including relationships between contemporaneous settlements and smaller sites; spatial organisation of settlements; internal plans of houses; burial practices; art; exploitation of resources; subsistence practices; pottery production and chipped stone production. These changes occurred in relation to the inherited traditions of central Anatolian Neolithic societies, which acted as points of reference within the trajectory of the development of local communities. Over time, however, localised transformation and modification of these constituent principles and rules occurred. Significant social and economic changes in the period are also reported in other parts of Anatolia, for example, at Hacilar (Mellaart 1970), Ilıpınar (Roodenberg 1995) and other western Anatolian sites (see Cutting 2005; Schoop 2005a; 2005b).

Central Anatolia is defined here as the area to the south of the Anatolian plateau, which can be divided into three areas, namely the Beyşehir-Seydişehir region in the west, the Konya plain in the centre and the Cappadocian region in the east. Only a few larger sites dated to the Late Neolithic and Early Chalcolithic periods have been excavated in this region to date (for an overview see Gérard, Thissen 2002). Smaller non-tell settlements and camps are even less well researched, which precludes a detailed analysis of some aspects of the social transformations, in particular, settlement patterns and subsistence practices, and limits a comparative analysis across the three central Anatolian areas.

In this article we will discuss the social transformations visible in the last phase of the central Anatolian Neolithic sequence, namely the second half of the seventh millennium cal. BC, and in the first phase of the Early Chalcolithic, dated to the first half of the sixth millennium cal. BC (fig. 1). The changes will be examined on a microscale, using Çatalhöyük as a case-

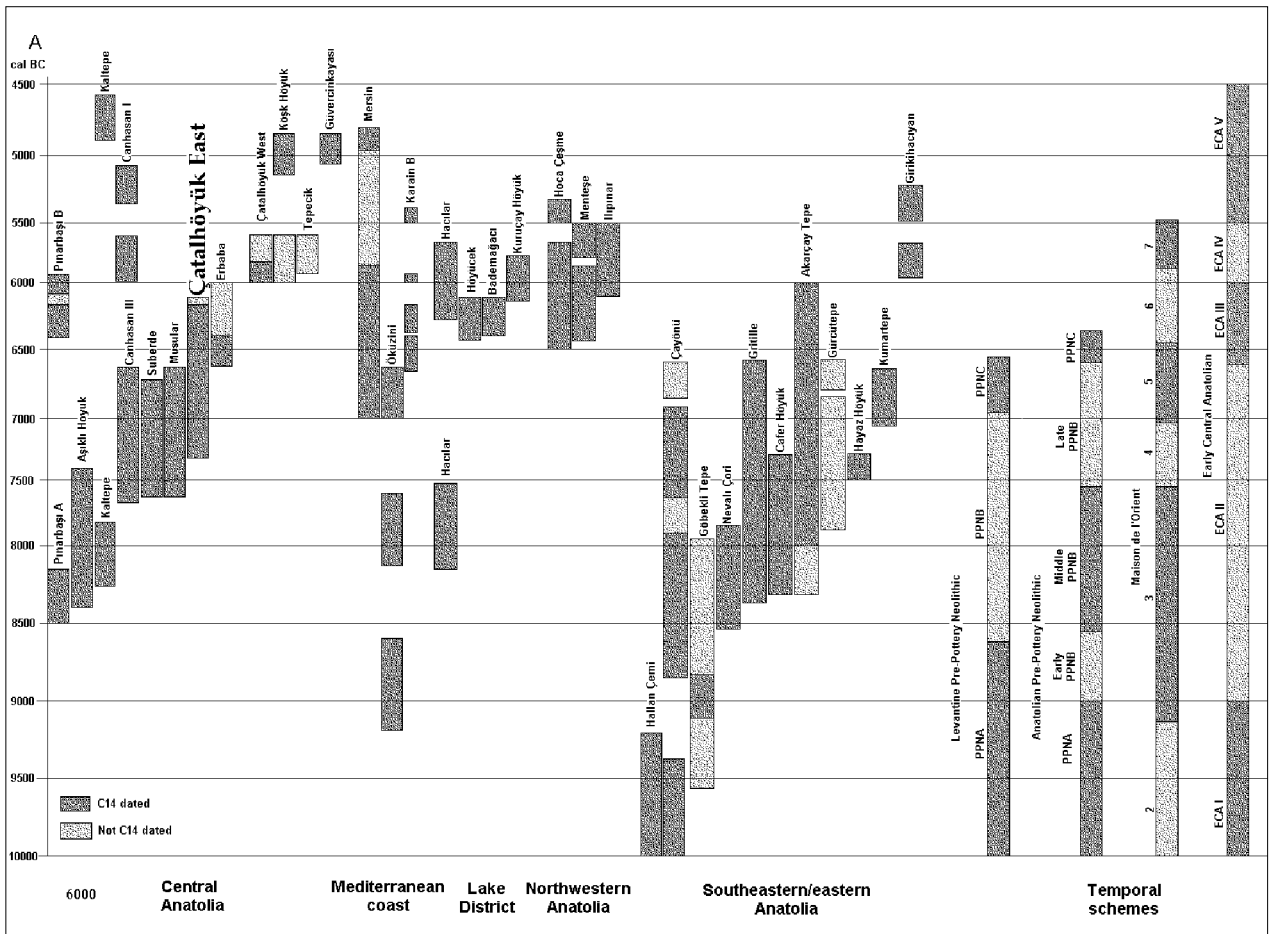


Fig. 1a. Chronological position of Çatalhöyük in the context of other sites in Anatolia

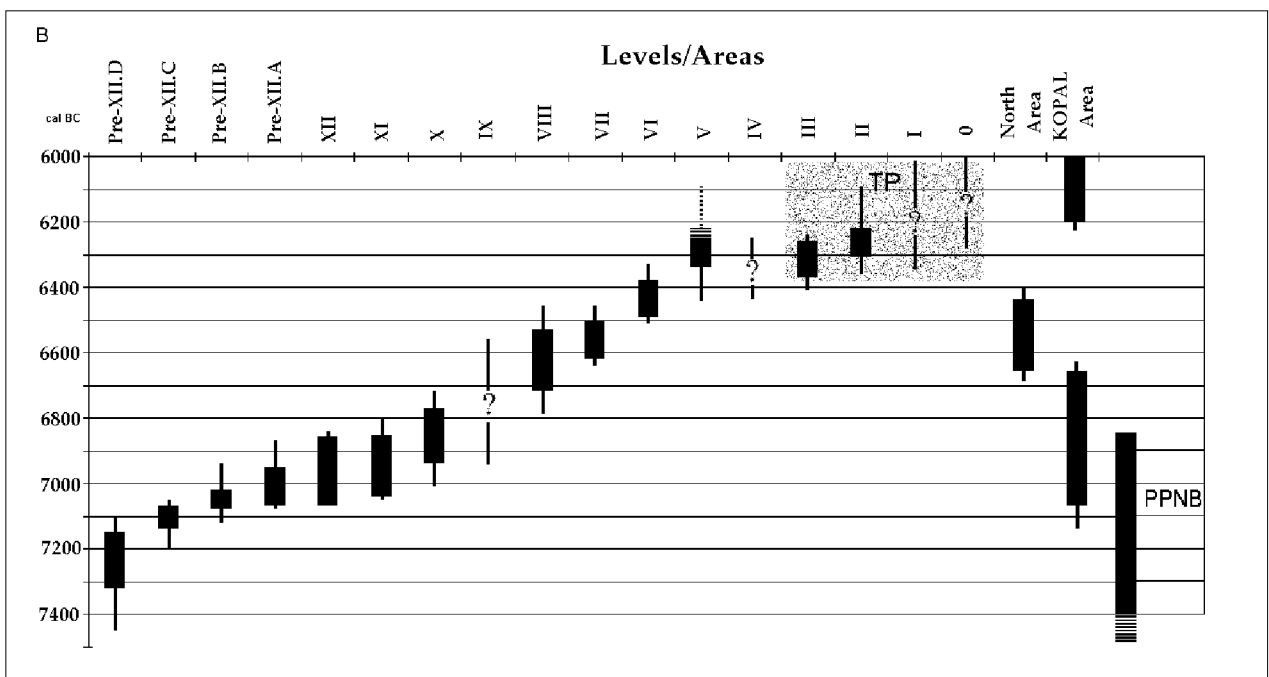


Fig. 1b. Radiocarbon chronology of subsequent occupation levels at Çatalhöyük (after Gérard, Thissen 2002; Cessford 2005). Shaded grey area = a modification of chronology as a result of the Polish excavations (see also fig. 2)

study, and also on a regional scale across the Beyşehir-Seydişehir area, the Konya plain and the Cappadocian region. The point of departure for this work was the Polish project at Çatalhöyük East, conducted in the Team Poznań (TP) area since 2001, under the direction of the authors. The character of social transformations at the end of the Neolithic in central Anatolia will be explored through evidence pertaining to settlement patterns and organisation of space alongside changes in architecture and burial practices as seen at Çatalhöyük. Other categories of evidence from our excavations, such as the material culture and a range of ecofacts have not yet been studied fully, but will form the basis of future research. Changes observed in the last phase of the Çatalhöyük East occupation will then be assessed within the broader regional context and the overall trajectory of development for Neolithic and Chalcolithic communities in central Anatolia.

Social transformations reflected at Çatalhöyük East and West

The two mounds, Neolithic East and Chalcolithic West, which make up the site of Çatalhöyük are situated on the Konya plain and are located along the former course of the Çarşamba river.

To date, 13 building horizons have been excavated at Çatalhöyük East, phased as levels XII to 0. This sequence is now preceded by an off-site sequence ‘pre-level XII.E–A’. The sequence as a whole can be dated to approximately 7300–6000 cal. BC (fig. 2; Cessford 2001; 2005; Czerniak, Marciniak 2004). In cultural-historical terms, the pre-level XII.E–A sequence (7400–7000 cal. BC) can be assigned to the Aceramic Neolithic, levels XII–VI (7000–6600 cal. BC) belong to the Early

Ceramic Neolithic, whereas levels V–I (6600–6000 cal. BC) fall in the Late Ceramic Neolithic period.

The relative chronology of the West Mound at Çatalhöyük is still based upon the pottery analysis published by Mellaart (1965) from two trenches he excavated in 1961; although more recent excavation has been undertaken (Last 1998; Gibson, et al. 2000; Gibson, Last 2001; 2003). Mellaart distinguished two phases of the Early Chalcolithic, labelling them as Early Chalcolithic I and II. Radiocarbon dates are concentrated around ca 6000 cal. BC and the first half of the sixth millennium (Göktürk, et al. 2002). Mellaart argued that occupation of the two sites overlapped, suggesting there could be Late Neolithic levels at Çatalhöyük West, while French postulated a hiatus in the occupation of the two mounds (Mellaart 1965: 135; French 1967: 165).

Çatalhöyük East

The objective of the Polish excavations at Çatalhöyük in the TP area is to study the latest phases of the East Mound occupation, known as Çatalhöyük 0, I and II, and dated to the end of the seventh millennium cal. BC. The top of the East Mound was believed to be ideal for the recognition of Late Neolithic structures (fig. 3), close to where Mellaart in the 1960s had identified the last phase of tell occupation. The Late Neolithic occupation at Çatalhöyük has been previously under-researched as the excavations conducted by Mellaart concentrated on earlier phases, meaning the evidence available regarding the later levels is less than satisfactory. In addition to the limited nature of the evidence from the 1960s, considerable destruction by post-Neolithic activities has occurred in this part of the mound resulting in a relatively small area suitable for analysis.

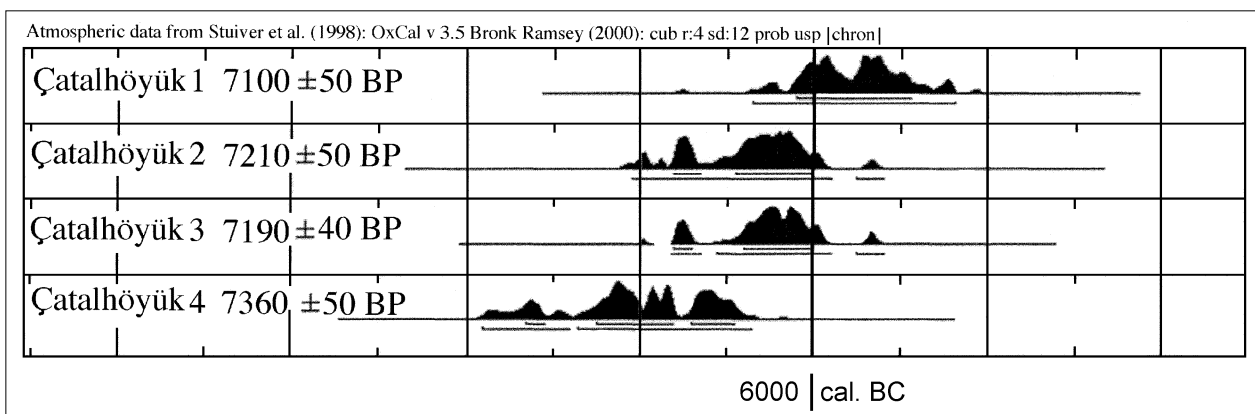


Fig. 2. Çatalhöyük East, Team Poznań area. New radiocarbon from levels 0–III (Czerniak, Marciniak 2004). (1) Poz-7449 (Çatalhöyük I, burial under B. 33, see fig. 5) 7100 BP = 6070–5840 cal. BC (95.4%); (2) Poz-7450 (Çatalhöyük I, oven in B. 33, see fig. 5) 7210 BP = 6210–5980 cal. BC (93.3%); (3) Poz-7451 (Çatalhöyük II?, ‘roof’ underneath midden placed under floor of B. 33, upper layer) 7190 BP = 6110–5980 cal. BC (80.6%); (4) Poz-7452 (Çatalhöyük II?, ‘roof’ underneath midden placed under floor of B. 33, lower layer) 7360 BP = 6270–6070 cal. BC (77.9%)

In the early phases (levels XII–VI) at Çatalhöyük, domestic structures were built of loam brick and accessed from the roof by a ladder. Each was occupied for about 60 years, after which they were generally emptied of portable items and the house carefully and systematically dismantled. The lower portion of the building was then levelled to set up a foundation for a new house. The houses were clustered in streetless neighbourhoods, which were separated from each other by alleys and courtyards. Each neighbourhood cluster consisted of about 30 to 40 buildings, which were accessed from the roof level. Houses have a great degree of continuity, being rebuilt on the same location for up to six building levels in a sequence stretching over several hundred years (for example, Düring 2005; Farid 2005a; Hodder 2005a; 2006).

Continuity is particularly clear in the internal organisation of the buildings, which display a high degree of similarity across the site. This is characterised by the placement of hearths and the oven in the south part of the building, a clean platform, often associated with burials, in the north part of the building, bucrania on the west wall and the access ladder near the hearths/ovens. Considerable continuity is visible in

platform and floor divisions through successive replastering and rebuilding, with only minor changes observable through time regarding the locations of ovens and hearths. This continuity is further corroborated by the superimposition of later houses on the walls of earlier ones.

Within the early levels of the Çatalhöyük sequence, social structures appear to be based around neighbourhood communities, as indicated by clustered distributions of houses and burials. Some buildings clearly served as burial sites for groups that outnumbered their inhabitants. The fact that buildings were not significantly altered over significant time periods may suggest that individual houses were distributed amongst members of the neighbourhood community, rather than being owned by specific households. Nevertheless, some discrete household units may have existed that were integrated into larger neighbourhood associations (see Düring, Marciniak 2006).

A major shift seems to have occurred at Çatalhöyük in the transition from level VI to V, although the break may not be as sharp as initially suggested (Düring 2001; 2002). The start of the Late Ceramic Neolithic at Çatalhöyük is marked by the abandonment of the

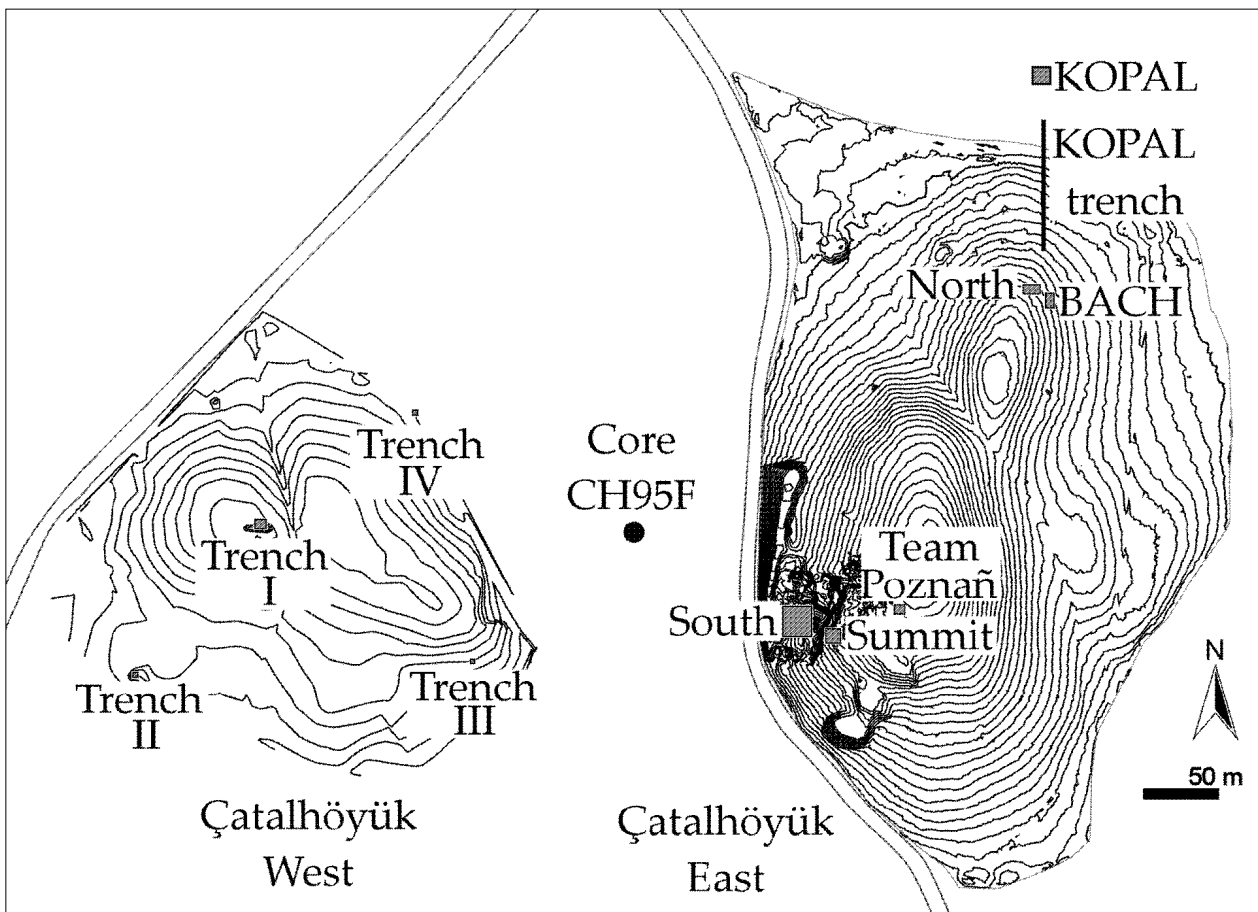


Fig. 3. Çatalhöyük East and West (after Hodder 2005a)

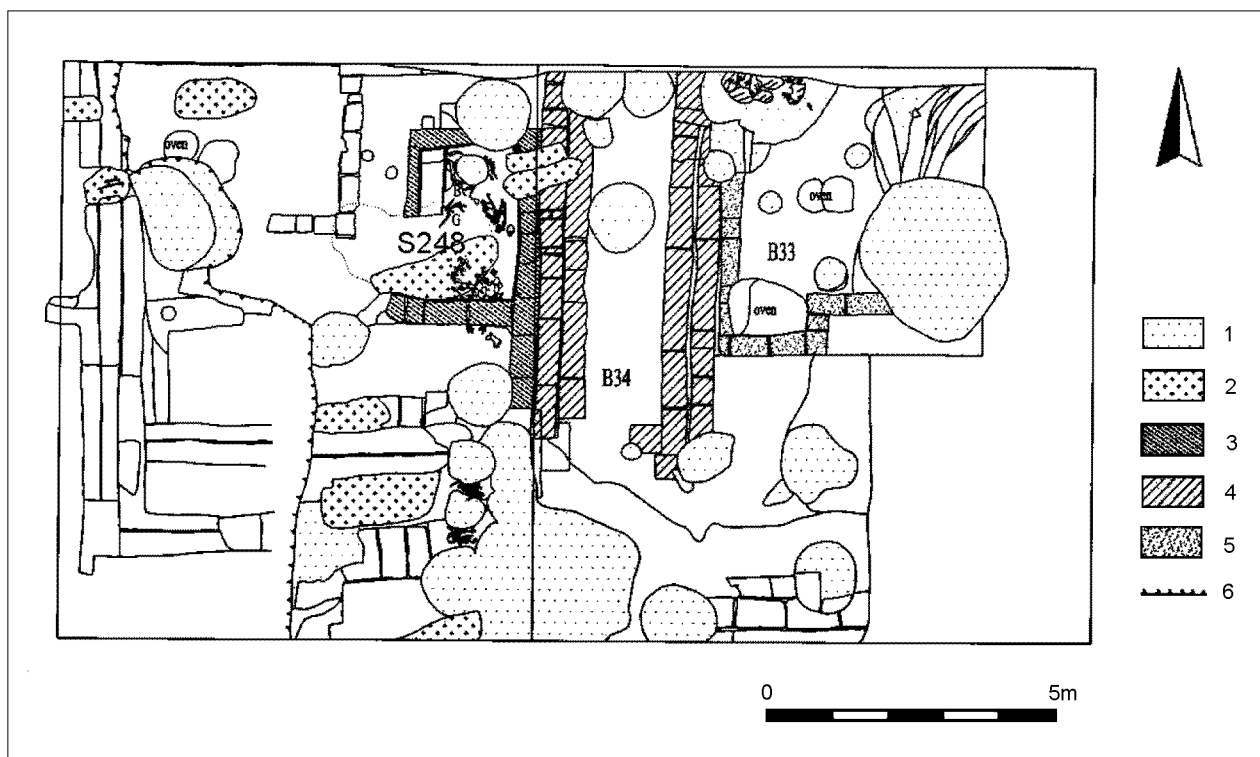


Fig. 4. Çatalhöyük East. A plan of the Team Poznań trenches, seasons 2002 and 2005. (1) Hellenistic and later pits; (2) Byzantine and later burials; (3) space 248, see fig. 6; (4) building 34; (5) building 33, see fig. 5; (6) eastern border of the Mellaart trench

pronounced building continuity seen in earlier levels. This period is further marked by the appearance of exterior doorways and the emergence of probable courts and streets, which made the houses more easily accessible than previously, as revealed in houses from levels III and IV (Düring 2001).

These radical changes are well-attested in the architecture, spatial organisation and burial practices in structures excavated in the TP area, levels 0 and I (fig. 3) (Czerniak, et al. 2001; 2002; Czerniak, Marciniak 2005). Two structures from level I (buildings 33 and 34) and one from level 0 (space 248) are dated to ca 6200–6000 cal. BC (figs 4, 5). All three buildings seem to mark a significant departure from the hitherto prevailing pattern, both in terms of their construction and their organisation of space. Building 33 is a rectangular, irregular structure with a small niche in the southwest corner in which a rectangular oven was placed. Other features are two small fire installations in the central section and a hearth associated with a feasting deposit located in the southeast corner of the building. One of the fire installations appears to be positioned in the centre of the building, in marked contrast to the location of such structures in the Early Neolithic but similar to the centrally placed oven in building 47 in the 4040 area, tentatively attributed to level II (Farid 2005b).

Building 34 is situated on a north-south axis. It is rectangular and has double mud-brick walls. Fragments of floor have been identified in the central part of the building, but this was of poor quality and less solid than floors of earlier buildings at Çatalhöyük. No features were discovered on the floor. Both buildings were built directly on a clay layer that was placed on a sequence of middens and show no relationship with any structure that

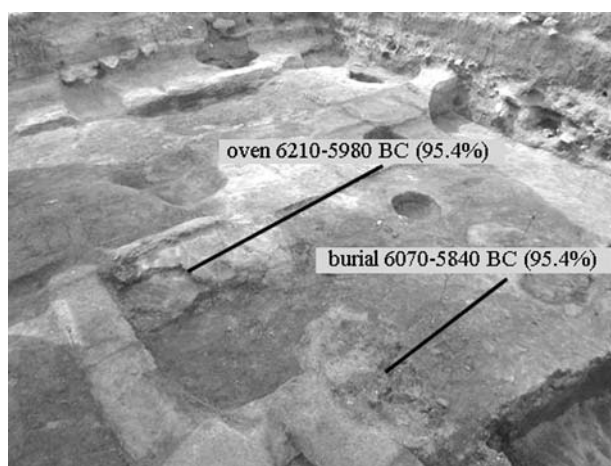


Fig. 5. Çatalhöyük East, Team Poznań trench. Buildings 33 and 34 (Çatalhöyük I) with the oven and the burial with radiocarbon dates

pre-dates the midden deposits. Both of them appear to be smaller than would be expected in the preceding periods. The internal dimensions of building 33 observed within the trench were 2.25m by 1.00m. The exact length of building 34 is unknown as it stretches beyond the northern edge of the excavated area, but in general it appears to be a small structure with its interior dimensions within the trench covering only 2.24m².

In addition to architectural and spatial changes, excavations in the TP area also revealed transformations in burial practices. An infant burial was found directly underneath the hearth with the feasting deposit, located in the southeast corner of building 33. The child was

buried in a crouched position on the left side with the face looking outwards. The body was probably placed in a basket, as indicated by a layer of phytoliths. A large fragment of cattle pelvis was found under the child's head; this appears to be a special deposit with symbolic meaning and is a practice unknown from the preceding period.

Another transformation relating to the custom of intra-mural burials was identified in space 248, level 0 (fig. 6). This rectangular structure, 2.7m long (north-south) and 1.7m wide, was probably used as a burial chamber, as indicated by the remains of at least six individuals (two infants and four adults, probably all of

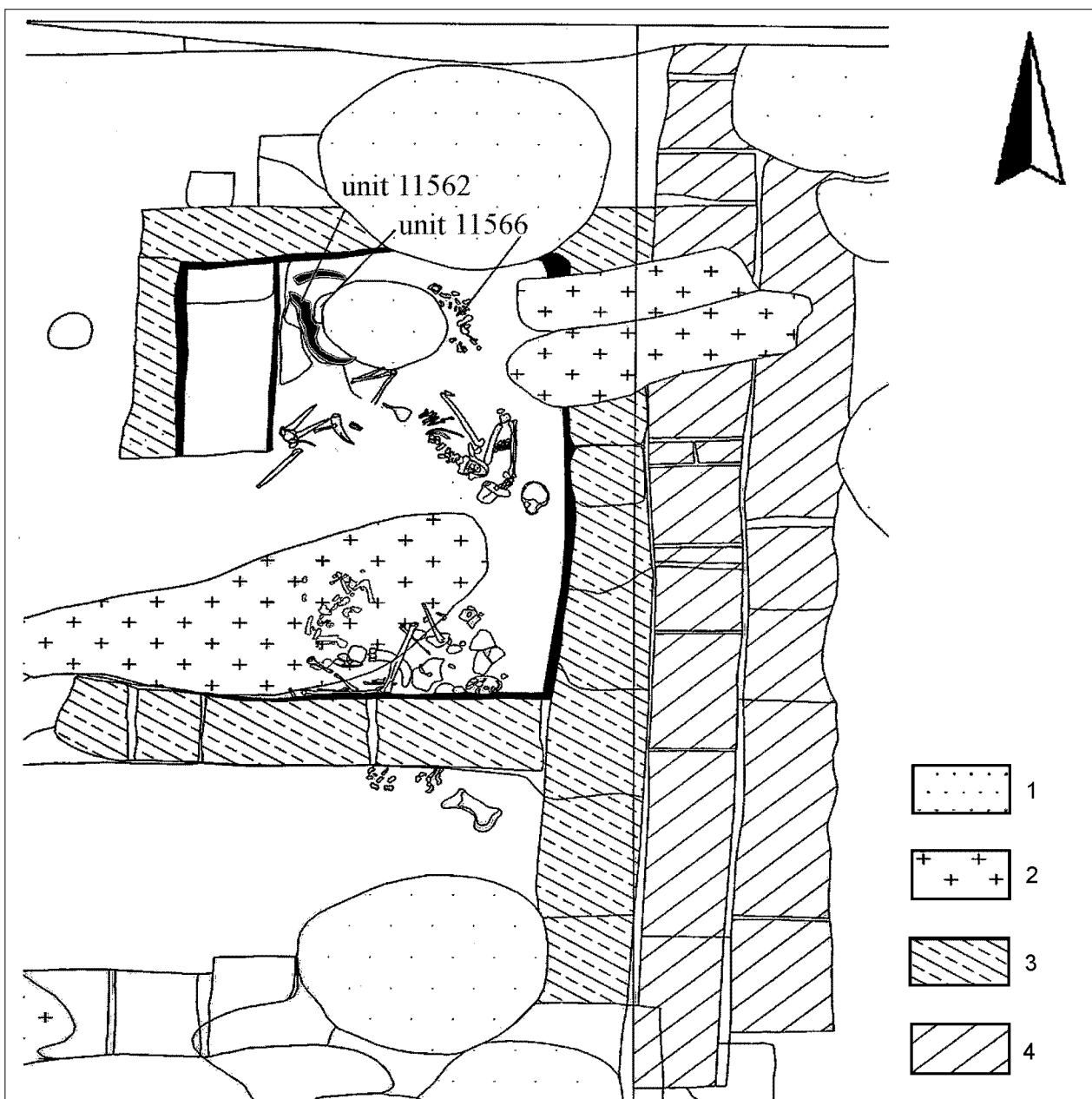


Fig. 6. Çatalhöyük East, Team Poznań trench. Plan of space 248 (Çatalhöyük 0). Black line = plastered wall of the space. (1) Hellenistic and later pits; (2) Byzantine and later burials; (3) space 248; (4) building 34

them female) in its southern part and three to four individuals (all adults, probably female) in the north. The southern part of the space contained mostly disarticulated remains, predominantly skulls, while the northern part was dominated by articulated skeletons. Instead of placing the bodies underneath the floor, all the remains were interred on the floor and then deliberately buried by a plaster layer. The bodies, or their fragments, were buried in at least two episodes/phases, each of them marked by a layer of silty plaster. A well-preserved plastered bench was placed against the western wall of the space, as a later addition during one of the episodes of rebuilding. The most important element in the north section of the space was an installation composed of a bucranium (unit 11562) and a female skeleton (unit 11566) (fig. 7). The bucranium abutted the bench and both elements were built directly on the floor. Interestingly, the juxtaposition of bucrania and human skeleton(s) in the form of a deliberate installation was not practiced in earlier levels. A narrow entrance to the space was located against the south section of the west wall.

A cluster of animal and human bones belonging to the earliest phase of space 248 contained a goat horn core, cattle horn core, sheep/goat tibia and a human long bone, probably a femur, as well as a few sheep/goat mandibles, and was placed near the entrance directly underneath the floor. The character of this cluster and its location indicate that it may have been a foundation deposit. Individual elements within the group may have been dismantled from other locations and deliberately re-deposited.

Space 248 was located in the place of a northeast platform belonging to an earlier building from level I. The building was probably deliberately truncated in association with the construction of space 248. The presence of the burial chamber, superimposed on the location of a northeast platform within an earlier building, may indicate that the chamber retained the special importance ascribed to this space during the earlier phases of occupation. The significance and meaning of the northeast platform belonging to the earlier building had been remembered, but this importance was manifested and articulated in a different way during the last episode of the Neolithic occupation in this part of the mound. Knowledge of the location of the earlier deposits may have served to sanction the construction of this unusual burial chamber in this particular location.

Considerable changes also occurred in the Late Neolithic in some aspects of material culture. Lithic industries became more complicated, which possibly relates to craft specialisation by skilled individuals

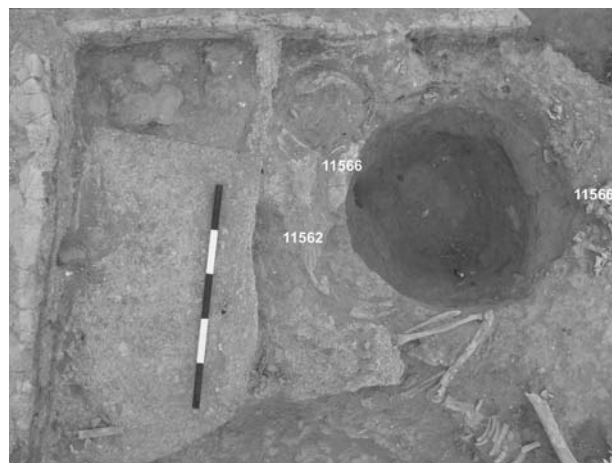


Fig. 7. *Çatalhöyük East. Space 248. 11562 = cattle bucranium; 11566 = human skeleton*

(Conolly 1999). Pressure-flaking seems to predominate in blade production, while blades from a skilled percussive technique are rare. An increased number of prismatic blades is probably associated with dependence on domestic food sources and with cooking habits as indicated by bipolar truncation and bilateral wear-retouch. All these changes may be linked with a radical re-organisation of chipped stone production at the end of the Neolithic (Carter 2005).

Gender differences are more pronounced in the figurines from level VI onwards (Hamilton 1996: 225; Voigt 2000: 287). Concomitant with an increasing dependence on domestic food sources, capturing wild animals seems to be depicted in the narrative hunting scenes of the upper levels at the site (Mellaart 1967: table 13; Voigt 2000: 287; Hodder 2005b: 189). Major changes are also identified in pottery manufacture and use, manifested by a shift from a chaff-tempered tradition to grit-tempered and burnished wares suitable for cooking (Mellaart 1966: 170; Last 1996: 118). They are also marked by the occurrence of stamp seals that arguably acted as moveable versions of art, making symbolism more mobile (Hodder 2005b: 190). This marks a transition from wall decoration to pot decoration – both painting and relief – characteristic of the Chalcolithic (fig. 8). However, the former was not completely abandoned, as indicated by fragments of painted wall surfaces from Chalcolithic Can Hasan 2B (French 1998: 32–34).

Changes in these and other domains in the last levels of the mound occupation in the TP area will be revealed when systematic analysis of the set of materials is completed.

After about two millennia of dominance during the Neolithic in central Anatolia, the clustered neighbourhoods disintegrated and were finally abandoned. This

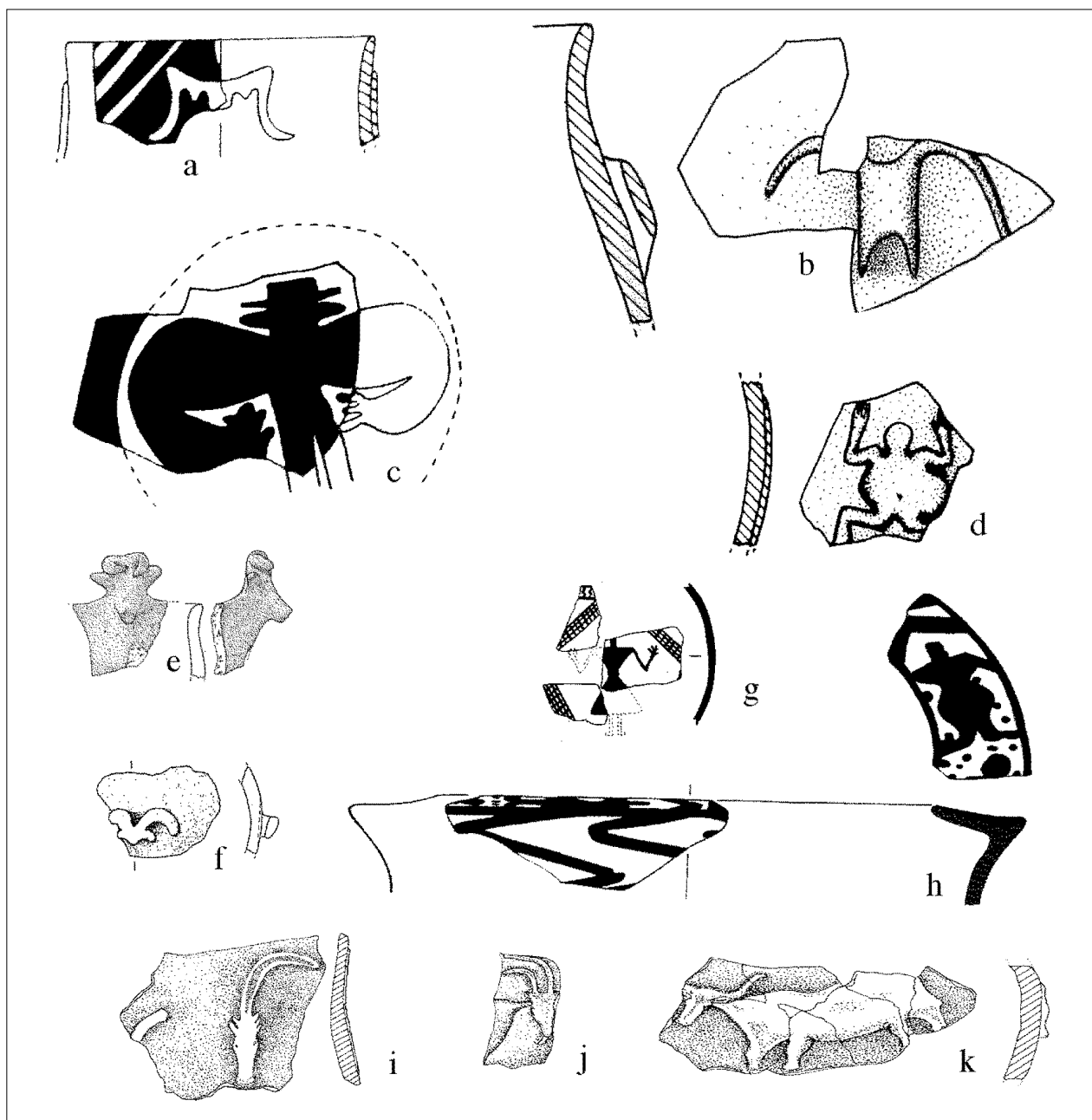


Fig. 8. A selection of painted and relief Early Chalcolithic pottery depicting motifs seen in painted scenes and installations from the walls of Neolithic houses, mainly those of Çatalhöyük East. Kuruçay Höyük (a–d); Demiriçihöyük (e–f); Canhasan I (g–h); Köşk Höyük (i–k) (after Duru 1998; French 2005; Seeher 2002; Silistreli 1989)

change in the Late Neolithic may be indicative of the emerging dominance of a domestic mode of production and consumption, with the associated development of the household as the dominant mode of social organisation (see Düring, Marciniak 2006). Interestingly, the 900 years of the Early Neolithic sequence at Çatalhöyük are followed by a much shorter, 300 to 400 years, Late Neolithic period, which is distinguished by dynamic changes that increase in pace in subsequent phases. This period is also associated with the emergence of farming settlements in the region (see below).

The emergence of the household as an independent social entity towards the end of the Çatalhöyük East occupation had far-reaching consequences. In particular, it resulted in a significant change to past resemblance politics. The previously dominant organisation was constructed using collective and long-term memories within social structures operating at the supra-household level. This was replaced by heterogeneous arrangements based on individualised, short-term memory regimes within a predominantly house-based social structure (see also Kuijt 2001; Hodder 2005b: 190).

Çatalhöyük West

Çatalhöyük West is one of two large Early Chalcolithic settlements on the Konya plain. Less is known about this mound than its eastern counterpart, as it has been excavated only to a limited degree (Mellaart 1965; Last 1998; Gibson, et al. 2000; Gibson, Last 2001; 2003). The nature of the multi-scalar transition between the eastern Late Neolithic mound and the western Early Chalcolithic mound at Çatalhöyük is poorly recognised due to limited evidence. Until recently, it was believed that the East Mound was abandoned in the Late Neolithic and, after a short hiatus, the West Mound was re-occupied. However, recent work has extended the dates of the East Mound as late as ca 6000 cal. BC (fig. 2) and produced dates for Çatalhöyük West concentrated at ca 6000 cal. BC (Göktürk, et al. 2002). This suggests there was a gradual transition from the East to the West Mound with a short overlap period. Moreover, excavations of the Late Neolithic structures on the summit of Çatalhöyük East reveal that many of the elements observed in the Early Chalcolithic began at the end of the Late Ceramic Neolithic sequence. Hence, settlement changes at Çatalhöyük across these periods were complex and multifaceted rather than being the simple transition from one mound to the other, as previously thought.

The most valuable evidence from the recent excavations at Çatalhöyük West comes from building 25 (Gibson, Last 2003). The house and its central room are smaller in comparison with most of the classic East Mound structures. Inside, raised platforms or benches were identified around the sides of the room. In the earliest phase, a large oven was located in the centre of the room and a smaller hearth in the southwest corner, which forms an interesting parallel with building 33 discussed above. In a side room of the building, space 218, a number of sheep/goat horn cores were recovered from below the floor, resembling practices identified in space 248 in the TP area. Building 25 is irregular in internal plan and divided up by internal rooms. A regular rectangular plan was abandoned and individual house elements fit together in a more haphazard way. The small rooms and the divisions suggest a radically different concept of space from most of the Neolithic East Mound but similarities to levels I and 0. Unfortunately, cessation of this phase of the excavation prevented the recovery of further information concerning early Chalcolithic houses (Gibson, Last 2003: 13), although new evidence has pointed to the existence of internal buttresses (Gibson, Last 2003; Biehl, et al. 2006: 127) which are particularly common at Canhasan I.

Although the nature of this transition from the East to West Mound is currently poorly understood, this situation may change in the immediate future. A new team has just begun excavations on the West Mound (Biehl, et al. 2006)

with the main objective of reaching the earliest layers of the West Mound in the hope that this will establish the site's full stratigraphy and enable links to be made with levels 0–I of the East Mound. The expected results of the new project, alongside those of our excavations of the later Neolithic levels on the East Mound and recent work conducted on the West Mound (Last 1998; Gibson, et al. 2000; Gibson, Last 2001; 2003), will hopefully expand our knowledge of the nature of the transition from the Late Neolithic to the Early Chalcolithic at Çatalhöyük.

Social transformations in the central Anatolian region

The Early Ceramic Neolithic settlement pattern is particularly well recognised in the Konya plain. It is characterised by long-term aggregation and marked by extreme concentration of population at one site – Çatalhöyük. Only a few smaller Neolithic sites dated to the second half of the eighth millennium, such as Ali Hüyük Tepe, Boncuklu and Sancak, have been discovered to date. Pınarbaşı (rock shelter), a temporary camp probably occupied by herders of sheep and goats and hunters, is the only site in the vicinity of Çatalhöyük dating to the first half of the seventh millennium cal. BC (Baird 1996: 12; 1997: 13; 1999: 13; 2005: 61). An apparent lack of permanent sedentary communities in the region during the Early Neolithic exists, in sharp contrast to preceding and succeeding periods. Such centrality cannot be explained in terms of inter-dependence between an economic, ritual or administrative centre and a rural periphery, as there is absence of a network of small sedentary communities within close proximity. It would seem that Çatalhöyük should be regarded as a focus for population aggregation from surrounding communities (Baird 2002: 148; 2005: 67–71).

This situation in central Anatolia changed in the Late Neolithic. Unfortunately, details of regional transformations in settlement patterns in the Late Neolithic and Early Chalcolithic are difficult to discuss in light of the present paucity of knowledge concerning these periods in central Anatolia. Transformations across the Late Neolithic and Early Chalcolithic from a regional perspective will therefore be discussed in three specific areas of central Anatolia: the Beyşehir-Seydişehir area, the Konya plain and the Cappadocian region.

The Beyşehir-Seydişehir area

A number of changes in settlement pattern can be discerned around 6500 cal. BC in almost the entire area of central Anatolia. Along the margins of the Suğla and Beyşehir lakes a number of small village sites emerged. A similar phenomenon is apparent further to the north and west around 6400 cal. BC, as exemplified by Demiriçhöyük near Eskişehir, Menteşe in the Yenişehir basin and sites around Marmara (Thissen 1999).

For the Late Neolithic, a group of sites is known within the Beyşehir lake area (Çukurkent, Yılan Hüyük, Hüyük C, Kızılviran Hüyük) and another two are known from the vicinity of Seydişehir (Seydişehir Hüyük and Kanal Hüyük) (Mellaart 1954: 180–81), but, unfortunately, these have never been investigated systematically. Until very recently, the only excavated sites were Suberde (7600–6500 cal. BC) and Erbaba (6650–6000 cal. BC), but they provide only limited information about social developments in this period (Thissen 2002b). Recent rescue excavations at Gökhöyük may considerably change this situation when the final results are made available. Preliminary results of the Gökhöyük excavations indicate that the site was uninterruptedly occupied from the Late Neolithic through to the Late Chalcolithic. The majority of houses were mud-brick built on stone foundations and comprised a main room and small spaces arguably used as workshop and kitchen areas. The houses also had raised platforms, and both floors and walls appear to be regularly plastered. As regards the latter features, parallels can therefore be seen with features of the classic Çatalhöyük East housing from levels XII–VI.

Erbaba appears to be contemporary with Çatalhöyük East levels VIII–0 (Duru 1999: 187). In particular, its earliest level (III) is approximately contemporary to levels VI and V at Çatalhöyük, while Erbaba levels I and II seem to be contemporary with Çatalhöyük's later levels (IV–0) (Duru 1999: 187). However, the site stratigraphy is not firm as it is based upon the evidence from a number of small trenches placed in different parts of the site (Bordaz, Alpers-Bordaz 1982) and cannot be substantiated by radiocarbon dating as only one C14 date (6650–6400 cal. BC) is available. The site was abandoned before the onset of the Early Chalcolithic.

Although Erbaba was contemporary with Çatalhöyük East levels VI–0, in terms of its architecture, namely clusters of densely packed buildings with hardly any evidence of street or alleys (Düring 2006: 251), it is more similar to the classic Çatalhöyük settlement plan known from level VI and earlier. As seen at Çatalhöyük East in these levels, the houses have no doorways at ground level suggesting that they were entered from the roofs (Duru 1999: 172). Erbaba's earlier levels (III and II) also have clay benches and ovens (Bordaz, Alpers-Bordaz 1982: 82), but a distinct feature of the site is the use of stone for construction. The spatial organisation of floors from levels II and III is very similar to Çatalhöyük East, but the latest level (I) lacks floors and floor features, which is more reminiscent of the TP excavations of levels I–0 at Çatalhöyük. It must be stressed, however, that we cannot rule out the possibility that the floors have not been preserved or found (Düring 2006: 255).

All available features indicate that the Erbaba settlement was very similar to Çatalhöyük East level VI and earlier. However, the site existed in a different social environment compared to Çatalhöyük as there were more small contemporary sites in the Beyşehir region. Düring (2006: 256) argues that the household was the paramount unit of social organisation; however, this reconstruction is not conclusive due to the limited size of the excavation and to the quality of empirical material available. The limited scope of excavations at Erbaba precludes more detailed analysis and only a new campaign will allow better inter-site comparisons to be made.

The Konya plain

Whereas Çatalhöyük appears to have been the only settlement in the landscape during the Early Ceramic Neolithic in the Konya plain, the Late Ceramic Neolithic is marked by the appearance of many smaller sites, which continued to be occupied into the subsequent Early Chalcolithic (Baird 2002). Several smaller Neolithic sites exist in this part of the plain around Çatalhöyük in the second half of the seventh millennium cal. BC. Where size information is available they are much smaller than both the Çatalhöyük mounds, which suggests a difference in the nature of these communities. The possibility that Çatalhöyük West began to act in this period as some sort of 'centre' for such sites is at least feasible (Baird 1997: 13).

The very last phase of the Late Neolithic and the start of the Early Chalcolithic, around 6000 cal. BC, saw further development of the changes in settlement pattern that began at the start of the Late Neolithic. Settlements were smaller and were occupied for shorter periods than previously. In comparison with the steady rate at which changes occurred in the second half of the eighth millennium and the first half of the seventh millennium BC, around 6000 cal. BC, developments occurred more quickly and their internal dynamics intensified. This period is marked by the relocation of settlements, particularly in the Konya-Ereğli basin. In addition to the transference of the Çatalhöyük settlement from the East Mound to the West Mound, Canhasan I was established as a major settlement and several other sites were founded (Mellaart 1954; 1961). There was, therefore, a considerable increase in the number of sites in the region when compared with the preceding period (Baird 1997: 13). Many sites that were first occupied in the Late Neolithic period also continued to be inhabited in the subsequent Early Chalcolithic. In general, the Early Chalcolithic period in the Konya plain is characterised by two large settlements along with 14 dispersed small sites (see Mellaart 1954: 186–88; 1961: 177–78; French 1970: fig. 7; Baird 1999: 13).

Environmental conditions, such as extensive flooding, in the Early Chalcolithic do not account adequately for this regional change (Baird 2002: 150). Rather, the settlement pattern seems to reflect the presence of a settled agricultural population in the region. The subsistence economy, as recognised today, was based upon the full domestic exploitation of plants and animals, although hunting and gathering still played a minor role (Özbaşaran, Buitenhuis 2002: 71; also Gérard 2002: 107). The altered settlement pattern may also indicate that large sites in the Early Chalcolithic may have been centres serving subsidiary communities in some fashion (Baird 1996: 12).

As indicated by the results from the survey area, none of the sites located in the area of the Konya plain exceeded 4ha in area and the mean size of these settlements was 1.6ha. Early Chalcolithic sites were more widely dispersed than in the preceding period, but they were still almost exclusively located within the alluvial zone of the Çarşamba river, both on sand ridges and on the alluvium (Baird 2002: 145; 2005: 71–73). There appears to be a dense network of small sites around the larger Early Chalcolithic Çatalhöyük West. Some of these sites are likely to be contemporary, and this suggests more strongly than the Neolithic settlement pattern the possibility of asymmetric relationships between communities (Baird 1999: 14). Hence, Early Chalcolithic Çatalhöyük West arguably assumed a new centrality in the Konya plain in relation to smaller sites, probably within the roles of religious, social or economic exchange. The site may have acted as an integration centre for dispersed groups within the region, creating a type of centre-periphery relationship, unknown in the preceding Late Neolithic.

Another large settlement in the southern zone of the Anatolian plateau was founded at Canhasan I (Mellaart 1954; 1961). This was a nucleated, possibly special-purpose site, with an emphasis on storage and accumulation of resources (Thissen 2002a: 20). Like Çatalhöyük West, Canhasan I appears to have functioned as a central site within a network of smaller settlements in the region. The nature of these relationships needs to be explored in the future.

Layer 3 at Canhasan I formed the transition between the Neolithic and Chalcolithic settlements (French 1998: 25). Walls from this phase were deliberately constructed on the top of earlier walls from layer 4, which is typical of Early Neolithic practices at Çatalhöyük East in level VI and earlier. The most significant change in architecture in layer 3 at Canhasan is the construction of very regular structures with many internal buttresses, built exclusively from presumably mould-made mud-bricks. These aspects anticipate the characteristics of the

following layer 2B settlement and can be seen as a considerable shift from Çatalhöyük East practices. However, external doors were completely absent, which suggests that these buildings were entered from the roof. Late Neolithic layer 3 was replaced by Early Chalcolithic layer 2B where a ‘house was filled in, the tops of walls cleanly sliced off, the area filled in and levelled’ (French 1998: 26). New buildings were carefully inserted into existing structures without changing the surrounding buildings and therefore followed the alignment of the entire settlement (Düring 2006: 262–63). This appears to be a transformed practice known from Early Neolithic Çatalhöyük East where earlier buildings were usually dismantled to above the floor level to form a space to create a new structure.

In the majority of buildings from the Early Chalcolithic levels at Canhasan I the only internal features are benches and bins; there are no ovens, hearths or platforms. This tradition continued in layer 2A (transitional Early–Middle Chalcolithic period) where the site plan displayed considerable symmetry. These buildings could be interpreted as two-storey structures, meaning the bare excavated building remains were the basements below upper floors, which were used as the living space (Düring 2006: 267–70). The scale of the buildings in layer 2B implies that these structures may have functioned as household residences, which varied in size considerably (Düring 2006: 277).

Cappadocia

Around 6000 cal. BC considerable changes also occurred in the settlement pattern of the eastern part of central Anatolia. Sites appeared in completely new areas. These new sites do not seem to have enjoyed much longevity and appear less permanent than earlier ones. The most notable settlements are Köşk Höyük, Tepecik-Çiftlik, and Pınarbaşı-Bor.¹ There is also a number of other sites with possible Early Chalcolithic deposits in the region, such as Elemenli Hüyük and Kabakulak (Todd 1967: 12; 1980), as suggested by the presence of dark burnished, incised and impressed ware

¹ It has been pointed out to us that although we present Köşk Höyük, Tepecik-Çiftlik and Pınarbaşı-Bor as Early Chalcolithic sites radiocarbon dates from these sites point to a Middle Chalcolithic date. Many authors, most recently Schoop (2005a), have stated that these sites show evident parallels in material culture to Can Hasan 2B and 2A, which are undoubtedly Early Chalcolithic in date. Hence, we suggest that Köşk Höyük, Tepecik-Çiftlik and Pınarbaşı-Bor have Early Chalcolithic contexts which for a variety of reasons have not been radiocarbon dated. Their stratigraphic position is further corroborated by the results of yet unpublished materials from Tepecik-Çiftlik and ongoing excavations at Köşk Höyük.

(Summers 1991). Todd (1980: 113, 118) noticed that such sites had subsistence economies based on farming, but were also placed in strategic locations aimed at the exploitation of specific goods; for example, Cappadocian obsidian in the cases of Köşk Höyük and Tepecik-Çiftlik (for example, Silistreli 1985: 201; 1986: 204; Bıçakçı 2001: 29; Bıçakçı, Faydalı 2001: 31). Iıcapınar, located to the southwest of the Salt Lake, is probably also dated to this period and exchanged salt for obsidian (Mellaart 1958: 83). The causes of settlement distribution in post-6000 cal. BC society were, therefore, much more interwoven with the economy than was previously the case. Perhaps as a consequence of this, Early Chalcolithic societies in this region appear to be affluent and stable, as indicated by a rich and diversified material culture displayed in art and burial practices and unknown from preceding periods (Todd 1967: 12; Thissen 2002a: 14–15). It is in this period that the household emerged as a fully independent entity.

It is worth noting that a number of the Neolithic Çatalhöyük resources survived in a transformed form in Cappadocia rather than in the Konya plain. These comprise iconography, the lithic tool industry and the use of obsidian. The same elements can also be traced in the Karaman plain south of the Konya plain (Thissen 2002a: 20). Interestingly, both regions developed in a similar manner. Transformed aggregated settlements appear in Canhasan I layers 2B and 2A and Köşk Höyük levels 3 and 2, which are contemporary. The same was probably the case at Çatalhöyük West (see Schoop 2005a: 133).

Of special significance was the Niğde area, as demonstrated by the fact that four of the major sites lie within a 30km radius of the modern town. This is attributed to the proximity of obsidian sources and the nature of the surrounding geography (Todd 1967: 12).

The best-known site is Köşk Höyük, characterised by the unusual nature of its elaborate structures, reminiscent of those from Çatalhöyük East. Burials were placed under house floors and a large number of small anthropomorphic figurines has been found (Silistreli 1985: 201). However, several elements unknown at Çatalhöyük have also been identified; for example, a storehouse with rectangular walls, stone architecture, carefully plastered floors, kitchens with ovens, hearths and *in situ* pots (Silistreli 1984: 224; Duru 2002: 174). In the earliest phase of occupation, level 3, the houses were already entered by a door at street level.

Interestingly, pottery from levels 3 and 2 was decorated with motifs of human figures, bulls, cows and snakes (fig. 8; Silistreli 1989; Schoop 2005a: fig. 53). These are well-known motifs from Çatalhöyük East, but

are known from depictions on the walls of houses (Mellaart 1967). Pots decorated with human and animal figures also appear at other Early Chalcolithic settlements in central Anatolia, such as Canhasan I and Çatalhöyük West, in addition to sites such as Kuruçay Hüyük in the Lake District and at Demiriçihöyük in northwest Anatolia (Duru 1994; Seeher 1987). It has been argued that pot decoration observed at Köşk Höyük, Çatalhöyük West and Canhasan I (2B and 2A) can be ascribed a similar meaning (Hodder 2005b: 190; Schoop 2005a: 133). We appear to be dealing again with the transformation of earlier concepts and ideas previously manifested in different media, such as wall-paintings at Çatalhöyük East. This practice can be viewed as a form of reminiscence for the past.

The end of the Early Chalcolithic in central Anatolia

Our knowledge about the second half of the sixth millennium BC is very limited. Only a handful of sites can be ascribed to this period. This contrasts significantly with the preceding and the following periods which are represented by far more numerous sites of various sizes. This significant decrease in the number of sites implies a reduction in occupation within the region. This is also indicative of more pronounced changes in the trajectory of development following the Early Chalcolithic in the region, which occurred around the mid sixth millennium cal. BC, when most of these sites were abandoned. This non-continuation of previously prosperous settlements marks the beginning of the Middle Chalcolithic and it seems certain that we are dealing with a major break between these two periods (French 1998: 65–67). However, the nature and mechanisms of these significant transformations are largely understudied.

In the Konya plain, in the Late Chalcolithic, unlike in earlier periods, there appear to have been no large sites, but instead a high number of small- to medium-sized settlements. This change may have occurred as a result of population decline in the Middle Chalcolithic and the last part of this period is marked by a virtual abandonment of this part of the Konya plain by sedentary village communities (Baird 1999: 14; 2005: 73). Similarly, in Cappadocia in the middle of the sixth millennium cal. BC prosperous settlements appear to be abandoned, or their permanent occupation ceased. One of the reasons for this collapse is believed to be the decreasing importance of raw materials such as obsidian (Thissen 2002a: 15). Interestingly, the major settlements in both regions, namely Canhasan I and Köşk Höyük, were abandoned at the same time and non-site occupation followed in both regions (Thissen 2002a: 20; Gérard 2002: 109).

This situation changed considerably towards the end of the sixth millennium and the beginning of the fifth millennium. Köşk Höyük was probably re-occupied in this period, as is implied by a series of nine dendrochronological dates from a single tree dated in the range ca 5200–4800 cal. BC (Schoop 2005a: 416; see also Öztan, Faydalı 2003). The site of Güvercinkayası was also founded around this time and ten available radiocarbon dates place it in the period between 5210 and 4850 cal. BC.

Conclusions

The nature of the multi-scalar transition between the Late Neolithic and Early Chalcolithic at Çatalhöyük is poorly recognised due to limited evidence as compared with the transition in levels VI and V, which is revealed by the large body of data produced by both Mellaart's and the recent excavations. Valuable insight into this process has been provided by the results of the Polish excavations of the Late Neolithic structures in the TP area, which have revealed considerable changes in architecture and the organisation of space.

Social changes in the Late Neolithic at Çatalhöyük appear to have involved the demise of the neighbourhood communities that had formed the basis of Early Neolithic society, and the emergence of the household as a well-defined and autonomous entity; with far-reaching consequences. In regional terms, the emergence of the household appears to bring about considerable changes in the social and economic existence of Neolithic farmers. It became an important vehicle for the transformation of central Anatolian Neolithic traditions, and eventually led to considerable changes in the configuration of local communities, leading to the emergence of Chalcolithic communities. The trajectory of development in particular regions and periods, however, occurred at different rates.

The very last phase of the Late Neolithic and the start of the Early Chalcolithic saw a continuation of the transformations that had begun at the outset of the Late Neolithic. Settlements became smaller and less permanently occupied than previously. At the same time, many sites were founded in the Late Neolithic and continued to be inhabited in the subsequent Early Chalcolithic period. Examples of relocated sites and changes in settlement character are particularly clear in the Konya-Ereğli basin. At Çatalhöyük, it is believed that the East Mound was abandoned in this period and the local community moved to the West Mound, but this transformation was not as straightforward or sudden as existing culture-chronological divisions might imply. The changes that led to the emergence of Chalcolithic communities were more gradual and originated at the end of the Late Neolithic.

The general appearance of small settlements about 6500 cal. BC and then again at about 6000 cal. BC should be related to a shift toward the exploitation of available natural resources (Gérard 2002: 108) and not linked to a return to nomadism/pastoralism. In particular, the causes of settlement distribution in post-6000 cal. BC society were more economically bounded, as indicated by a focus on the exploitation of Cappadocian obsidian as seen at Köşk Höyük and Tepecik-Çiftlik (Silistreli 1985; 1986; Bıçakçı 2001) and salt in the Salt Lake area as attested at Ilıcıpınar (Mellaart 1958).²

To paraphrase Gérard (2002: 108), we would argue that it is only thanks to dynamic changes in society in the second half of the seventh millennium cal. BC that it was possible for Chalcolithic societies to become what is generally thought of as Neolithic people – ordinary farmers whose everyday life was far less permeated by complex ceremonial activities than their Early Neolithic counterparts as suggested by the documented remains at Çatalhöyük East. This enabled local groups to inhabit small settlements in strategic locations, start economically efficient lives and fully exploit the available resources. Consequently, the Early Chalcolithic in central Anatolia is characterised by the existence of sites with subsistence economies that were dependent on the full agricultural exploitation of domestic plants and animals, although hunting and gathering still played a minor role (Özbaşaran, Buitenhuis 2002: 71; also Gérard 2002: 107). Interestingly, one cannot exclude the possibility that small mobile groups formed in this period, which subsequently became a driving force of the intensified process of farming colonisation not only of western and northwestern parts of Anatolia but also the Balkans and other European territories.

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² It is worth stressing the significance of the under-utilised potential of the Beyşehir-Seydişehir region in this respect, and it is believed that studies of this area in the future will contribute to a better understanding of this process in central Anatolia. The nature of social transformations in the Late Neolithic and Early Chalcolithic in central Anatolia also needs to be scrutinised in the context of similarities to and differences from well-attested changes that occurred in this period in other parts of Anatolia, in particular in Cilicia and in the Lake District.

Bibliography

- Baird, D. 1996: 'Konya Plain' *Anatolian Archaeology* 2: 12
- 1997: 'Konya Plain' *Anatolian Archaeology* 3: 12–13
- 1999: 'Konya Plain Survey, central Anatolia' *Anatolian Archaeology* 5: 13–14
- 2002: 'Early Holocene settlement in central Anatolia. Problems and prospects as seen from the Konya plain' in F. Gérard, L. Thissen (eds), *The Neolithic of Central Anatolia. Internal Developments and External Relations During the 9th–6th Millennia cal. BC*. Istanbul: 139–59
- 2005: 'The history of settlement and social landscapes in the early Holocene in the Çatalhöyük area' in I. Hodder (ed.), *Çatalhöyük Perspectives. Reports from the 1995–99 Seasons*. Cambridge: 55–74
- Bıçakçı, E. 2001: 'Tepecik-Çiftlik Höyüğü (Niğde) kazısı ışığında Orta Anadolu Tarihöncesi kültürleri ile ilgili yeni bir değerlendirme' *TÜBA-AR* 4: 25–41
- Bıçakçı, E., Faydalı, E. 2001: 'Tepecik-Çiftlik 2000 yılı çalışmaları' *Kazı Sonuçları Toplantısı* 23/2: 29–38
- Biehl, P.F., Erdoğan, B., Rosenstock, E. 2006: 'Çatalhöyük West' *2006 Excavation Archive Report*: 122–34
- Bordaz, J., Alpers-Bordaz, L.A. 1982: 'Erbaba, the 1977 and 1978 seasons in perspective' *Türk Arkeoloji Dergisi* 26: 85–92
- Carter, T. 2005: 'Chipped stone. Team Poznań' *Çatalhöyük 2005 Archive Report*. http://www.catalhoyuk.com/archive_reports/2005/ar05_31.html
- Cessford, C. 2001: 'A new dating for Çatalhöyük' *Antiquity* 75: 717–25
- 2005: 'Absolute dating at Çatalhöyük' in I. Hodder (ed.), *Changing Materialities at Çatalhöyük. Reports from the 1995–99 Seasons*. Cambridge: 65–99
- Conolly, J. 1999: 'Technical strategies and technical change at Neolithic Çatalhöyük, Turkey' *Antiquity* 73: 791–800
- Cutting, M. 2005. *The Neolithic and Early Chalcolithic Farmers of Central and Southwest Anatolia. Household, Community and the Changing Use of Space*. Oxford
- Czerniak, L., Kwiatkowska, M., Marciniak, A., Pyzel, J. 2001: 'The excavations of the TP (Team Poznań) area in the 2001 season' *Çatalhöyük 2001 Archive Report*. http://www.catalhoyuk.com/archive_reports/2001/ar01_04.html
- Czerniak, L., Marciniak, A., Pyzel, J. 2002: 'The excavations of the TP (Team Poznań) area in the 2002 season' *Çatalhöyük 2002 Archive Report*. http://www.catalhoyuk.com/archive_reports/2002/ar02_07.html
- Czerniak, L., Marciniak, A. 2004: 'New perspectives on the transition between Neolithic and Chalcolithic in central Anatolia'. Unpublished paper presented at the tenth meeting of the European Association of Archaeologists in Lyon
- 2005: 'Excavations of the TP area' *Çatalhöyük 2005 Archive Report*. http://www.catalhoyuk.com/archive_reports/2005/ar05_17.html
- Düring, B.S. 2001: 'Social dimensions in the architecture of Neolithic Çatalhöyük' *Anatolian Studies* 51: 1–18
- 2002: 'Cultural dynamics of the central Anatolian Neolithic. The Early Ceramic Neolithic–Late Ceramic Neolithic transition' in F. Gérard, L. Thissen (eds), *The Neolithic of Central Anatolia. Internal Developments and External Relations During the 9th–6th Millennia cal. BC*. Istanbul: 219–36
- 2005: 'Building continuity in the central Anatolian Neolithic. Exploring the meaning of buildings at Aşıklı Höyük and Çatalhöyük' *Journal for Mediterranean Archaeology* 18: 1–20
- 2006: *Constructing Communities. Clustered Neighbourhood Settlements of the Central Anatolian Neolithic ca. 8500–5500 Cal. BC*. Leiden
- Düring, B.S., Marciniak, A. 2006: 'Households and communities in the central Anatolian Neolithic' *Archaeological Dialogues* 12/2: 165–87
- Duru, G. 2002: 'Some architectural indications for the origin of central Anatolia' in F. Gérard, L. Thissen (eds), *The Neolithic of Central Anatolia. Internal Developments and External Relations During the 9th–6th Millennia cal. BC*. Istanbul: 171–80
- Duru, R. 1994: *Kuruçay Höyük. Results of Excavations 1978–1988. The Neolithic and Early Chalcolithic Periods*. Ankara
- 1999: 'The Neolithic of the Lake District' in M. Özdoğan, N. Başgelen (eds), *Neolithic in Turkey. The Cradle of Civilization*. Istanbul: 165–91
- Farid, S. 2005a: 'Çatalhöyük – two mounds, one site' *ZAKS Newsletter*: 3–6
- 2005b: 'Excavations of the south area. Concluding remarks' *Çatalhöyük 2005 Archive Report*. http://www.catalhoyuk.com/archive_reports/2005/ar05_16.html
- French, D. 1967: 'Excavations at Can Hasan, 1966. Sixth preliminary report' *Anatolian Studies* 17: 165–78
- 1970: 'Can Hasan' *Türk Arkeoloji Dergisi* 19: 39–44
- 1998: *Canhasan Sites I. Stratigraphy and Structures*. London
- 2005: *Canhasan Sites 2: Canhasan I: The Pottery*. London

- Gérard, F. 2002: 'Transformations and societies in the Neolithic of central Anatolia' in F. Gérard, L. Thissen (eds.), *The Neolithic of Central Anatolia. Internal Developments and External Relations During the 9th–6th Millennia cal. BC.* Istanbul: 105–17
- Gérard, F., Thissen L. (eds) 2002: *The Neolithic of Central Anatolia. Internal Developments and External Relations During the 9th–6th Millennia cal. BC.* Istanbul
- Gibson, C., Hamilton, N., Last, J. 2000: 'Excavations at Çatalhöyük West' *Çatalhöyük Archive Report*. http://www.catalhoyuk.com/archive_reports/2000/ar00_05.html
- Gibson, C., Last, J. 2001: 'West Mound excavations 2001' *Çatalhöyük 2001 Archive Report*. http://www.catalhoyuk.com/archive_reports/2001/ar01_05.html
- 2003: 'West Mound excavations' *Çatalhöyük 2003 Archive Report*. http://www.catalhoyuk.com/archive_reports/2003/ar03_11.html
- Göktürk, E.H., Hillegonds, D.J., Lipschutz, M.E., Hodder, I. 2002: 'Accelerator mass spectrometry dating at Çatalhöyük' *Radiochimica* 90: 407–10
- Hamilton, N. 1996: 'Figurines, clay balls, small finds and burials' in I. Hodder (ed.), *On the Surface. Çatalhöyük 1993–95.* Cambridge: 215–64
- Hodder, I. 2005a: 'Introduction' in I. Hodder (ed.), *Çatalhöyük Perspectives. Reports from the 1995–99 Seasons.* Cambridge: 1–14
- 2005b: 'Memory' in I. Hodder (ed.), *Çatalhöyük Perspectives. Reports from the 1995–99 Seasons.* Cambridge: 183–95
- 2006: *Çatalhöyük the Leopard's Tale: Revealing the Mysteries of Turkey's Ancient Town.* London
- Kuijt, I. 2001: 'Place, death and the transmission of social memory in early agricultural communities of the Near Eastern Pre-Pottery Neolithic' in M.S. Chesson (ed.), *Social Memory, Identity and Death. Anthropological Perspectives on Mortuary Rituals.* Arlington, VA: 80–99
- Last, J. 1996: 'Surface pottery at Çatalhöyük' in I. Hodder (ed.), *On the Surface. Çatalhöyük 1993–95.* Cambridge: 115–72
- 1998: 'Excavations on the West Mound at Çatalhöyük 1998' *Çatalhöyük 1998 Archive Report*. http://www.catalhoyuk.com/archive_reports/1998/ar98_05.html
- Mellaart, J. 1954: 'Preliminary report on a survey of pre-Classical remains in southern Turkey' *Anatolian Studies* 4: 175–240
- 1958: 'The Neolithic obsidian industry of Ilcapınar and its relations' *Istanbul Mitteilungen* 8: 82–92
- 1961: 'Early culture of the south Anatolian plateau' *Anatolian Studies* 11: 159–84
- 1965: 'Çatal Hüyük West' *Anatolian Studies* 15: 135–56
- 1966: 'Excavations at Çatal Höyük. Fourth preliminary report, 1965' *Anatolian Studies* 16: 165–91
- 1967: *Çatal Höyük. A Neolithic Town in Anatolia.* London
- 1970: *Excavations at Hacilar.* Edinburgh
- Özbaşaran, M., Buitenhuis, H. 2002: 'Proposal for a regional chronology for central Anatolia' in F. Gérard, L. Thissen (eds), *The Neolithic of Central Anatolia. Internal Developments and External Relations During the 9th–6th Millennia cal. BC.* Istanbul: 67–77
- Öztan, A., Faydalı, E. 2003: 'An Early Chalcolithic building from Köşk Höyük' *Belleten* 67/248: 45–75
- Roodenberg, J.J. 1995: *The Ilpınar Excavations I. Five Seasons of Fieldwork in Northwest Anatolia, 1987–91.* Leiden
- Schoop, U.-D. 2005a: *Das Anatolische Chalkolithikum. Eine Chronologische Untersuchung zur Vorbronzezeitlichen Kultursequenz im Nördlichen Zentralanatolien und den angrenzenden Gebieten.* Remshalden
- 2005b: 'The late escape of the Neolithic from the central Anatolian plain' in C. Lichter (ed.), *How Did Farming Reach Europe? Anatolian-European Relations from the Second Half of the Seventh Through the First Half of the Sixth Millennium BC.* Istanbul: 41–58
- Seeher, J. 1987: 'Die Keramik 1' in M. Korfmann (ed.), *Demiriçihöyük. Die Ergebnisse der Ausgrabungen 1975–1978, Bd III.1.* Mainz am Rhein
- Silistreli, U. 1984: 'Köşk Höyük, 1983' *Anatolian Studies* 34: 223–24
- 1985: 'Köşk Höyük, 1984' *Anatolian Studies* 35: 199–201
- 1986: 'Köşk Höyük, 1985' *Anatolian Studies* 36: 203–04
- 1989: 'Köşk Höyük'te bulunan kabartma insan ve hayvan figürleriyle bezeli vazolar' *Belleten* 53: 361–74
- Summers, G. 1991: 'Chalcolithic pottery from Kabakulak (Niğde) collected by Ian Todd' *Anatolian Studies* 41: 125–31
- Todd, I. 1967: 'Central Anatolian survey' *Anatolian Studies* 17: 11–12
- 1980: *The Prehistory of Central Anatolia I. The Neolithic Period.* Göteborg
- Thissen, L. 1999: 'Trajectories towards the neolithisation of northwest Turkey' *Documenta Praehistorica* 26: 29–39

- 2002a: ‘Time trajectories for the Neolithic of central Anatolia’ in F. Gérard, L. Thissen (eds), *The Neolithic of Central Anatolia. Internal Developments and External Relations During the 9th–6th Millennia cal. BC.* Istanbul: 13–26
- 2002b: ‘Appendix I, CANeW charts. Central Anatolia, 10,000–5,000 cal. BC’ in F. Gérard, L. Thissen (eds), *The Neolithic of Central Anatolia. Internal Developments and External Relations During the 9th–6th Millennia cal. BC.* Istanbul: 324–27
- Voigt, M.M. 2000: ‘Çatal Höyük in context. Ritual at Early Neolithic sites in central and eastern Turkey’ in I. Kuijt (ed.), *Life in Neolithic Farming Communities. Social Organization, Identity and Differentiation.* New York: 253–93